

CLAIMS

1. A surgical device forming a surgical prosthesis (10), designed to provide support to a physiological, mammalian organ that can be supported, notably to correct urinary incontinence, characterized in that it comprises:
 - a) at least one first support component (20) to provide support of elongated shape defining a first end (22) and a second end (24) designed to exert a supporting action on a physiological mammalian organ (200) requiring support; said first elongated component being made at least partially of a substantially inextensible but flexible and deformable material;
 - b) at least one first traction component (30), advantageously filiform, which can be connected at least temporarily with at least one end (22 or 24) of said first elongated support (21), made of a substantially inextensible material which makes it possible to pull on the first elongated support (21) and keep it in place in such a position that it can provide said support;
 - c) at least one first fixation or anchoring system (40), designed to work in concert with at least said first traction component (30), inextensible, in such a way as to fix said first elongated sling and keep it in the correct position.
said first anchoring system (40) comprising a cage-forming device (42) with an upper end (43) and a lower end (44), the upper end (43) being fitted with a sliding component (46) which makes it easier to pull on the traction component (30) which acts on the elongated sling (20), in order to effect—through said pulling—the translation of one end of the elongated support (21) in order to provide support to said organ (200) and/or to keep said organ in position.
2. Device according to Claim 1, characterized in that the lower end (44) of the anchoring system (40) is configured to be inserted on or attached to a mammalian substrate which is relatively resistant to tearing, e.g. bone or some other appropriate tissue.

3. Device according to Claim 1 or 2, characterized in that the upper part (43) and the lower part (44) of the cage-forming component (42) of the anchoring system (40) are joined to one another by a series of lateral bridging arms (48) made of a substantially inextensible but flexible and deformable material.
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4. Device according to Claim 3, characterized in that said lateral bridging arms (48) are long enough to substantially form a kink at their mid-point (48a), in such a way that the upper part folds back on the lower part with the part of the arm (48b) joined to the lower part thus being
10 also inserted on the above-mentioned mammalian substrate (150) which is relatively resistant to tearing, e.g. bone or some other appropriate tissue; the anchoring system is thus inserted over a broad area of mammalian substrate which is relatively resistant to tearing, which reduces or eliminates the risk of tearing thereof.
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5. Device according to any of Claims 1 through 4, characterized in that the cage-shaped sliding component (46) of the anchoring system (40) is configured so as to act like a pulley, around which the traction component (30) can slide or translate to pull on the elongated sling (20).
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6. Device according to any of the preceding Claims, characterized in that the traction component (30) is in the form of a traction wire, preferably including a sliding component (32) such as a ring or a loop at one end (31). The other end of the wire—the free end—can be inserted into this ring or loop in such a way as to create a lasso-like loop device to facilitate pulling on the elongated sling (20); preferably, the elongated sling (20) contains at least one hole (26, 27) through which said traction wire (30) can be passed to be trapped by the lasso-type device which, when the other end of the wire (33)—the free end—is pulled, effects translation of said end (22 or 24) of the elongated sling (20), e.g. a strip
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7. Device according to any of the preceding Claims, characterized in that a unique anchoring system is provided to simultaneously pull both ends (22 and 24) of the sling (20), e.g. a strip.
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8. Device according to any of the preceding Claims, characterized in that a first anchoring system (40a) joined to a first end (22) of the elongated sling (e.g. a strip) is configured to allow fixation at a

predetermined, set position, while the other end (24) of the sling (20) is joined to a second anchoring system (40b) according to the present invention, thereby allowing displacement of the second end (24) of the sling (20) in order to exert a traction force on the mammalian organ as required.

5 9 Device according to any of the preceding Claims, characterized in that the cage-forming device (42) includes at its upper end (43) a hollow, tubular component (47), one end of which (47a) is designed to be joined to or continuous with the upper part (43) of the cage (42) and, at the same time, to form the sliding component (46), in particular by presenting a surface which forms the pulley around which the traction wire (30) is designed to slide; advantageously, said end (47a) has a hole (60) which is coaxial with the hollow tubular component (47).

10 10. Device according to any of the preceding Claims, characterized in that the lower part (44) of at least the first anchoring system (44a) or of each anchoring system (40a and 40b) includes an annular part (49) defining a central hole (50) through which can be passed the first traction component (30)—advantageously filiform as mentioned previously—or of each traction component, and which can also be advantageously used to accommodate the needle (113) of a trocar (110).

15 11. Device according to any of the preceding Claims, characterized in that the first elongated sling is in the shape of a strip, of which at least that part which is located between its ends consists of a fabric or meshwork created from two or more wires made of a substantially inextensible but flexible material.

20 12. Device according to any of the preceding Claims, characterized in that the material used to make the wires comprising the fabric of the strip is an organic polymer which is compatible with implantation in mammalian tissue, this organic material being advantageously one of the group of polyethylene, polypropylene or nylon and preferably polypropylene.

25 13. Device according to any of the preceding Claims, characterized in that the the second inextensible traction component includes or is constituted of an inextensible traction wire, in particular a wire made of an inextensible material, e.g. an organic polymer which is compatible with

long-term implantation in mammalian tissue, in particular polypropylene or nylon.

14. Traction component (30) of the surgical device forming a surgical prosthesis (10) according to any of Claims 1 through 13, characterized in
5 that said traction component (30) is made of a substantially inextensible material, advantageously filiform, and can be joined at least temporarily with at least one end (22 or 24) of the first elongated sling (20), to allow the pulling of said elongated sling (20) and keep it (20) in a position where it can provide said support, as defined in any of Claims 1 through
10 13.

15. Fixation or anchoring system (40) of the surgical device forming a surgical prosthesis (10) according to any of Claims 1 through 13, characterized in that said anchoring system (40) comprises a cage-forming device (42) with an upper end (43) and a lower end (44), the upper end (43) being fitted with a sliding component (46) which makes it easier to pull on the traction component (30) which acts on the elongated sling (20), in order to effect—through said pulling—the translation of one end of the elongated sling (20) in order to provide support to said organ (200) and/or to keep said organ in position, as defined in any of Claims 1
15 through 13.

16. Fixation and anchoring kit characterized in that it comprises at least one surgical device forming a surgical prosthesis (10), as defined in any of Claims 1 through 13, together with an introducer instrument (110), advantageously in the form of a penetrating trocar (114), with a protective
25 sheath (120) for the fixation or anchoring system mounted in a compact way or folded back between the penetrating trocar (110) and the sheath (120), and joined to said sheath (120) at least in the direction of penetration, said sheath including a system (121) to prevent retrocession of the fixation system in place between the trocar (112, 114) and the
30 sheath (120).